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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,515	07/21/2003	Nobuo Aoi	60188-571	3781

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EXAMINER

CHOI, LING SIU

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,515

Applicant(s)

AOI, NOBUO

Examiner

Ling-Siu Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2006 and 17 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 3,5-44 and 48-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 45-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/21/03, 8/16/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Responses to the Election/Restriction Requirement, both being filed July 17, 2006 and August 29, 2006. Claims 1-2, 4, and 45-47 of Group I have been elected.

Claim Objections

2. Claims 1-2, 4, and 45-47 are objected to because of the following informalities: (a) Claims 1 and 45, lines 1-3 "a substituted acetylenyl group" is suggested to be changed to --three substituted acetylenyl groups-- and "a substituted cyclopentanonyl group" is suggested to be changed to --two substituted cyclopentanonyl groups--; (b) Claim 2, lines 2-3, "a substituted acetylenyl group" is suggested to be changed to --three substituted acetylenyl groups--; (c) Claims 4 and 47, lines 2-3, "a substituted cyclopentanonyl group" is suggested to be changed to ---two substituted cyclopentanonyl groups--; and (d) Claim 46, lines 2-3, "wherein said first monomer is an adamantane derivative having a substituted acetylenyl group or a methane derivative having a substituted acetylenyl group" is suggested to be changed to -- wherein said first monomer is an adamantane derivative having three substituted acetylenyl groups or a methane derivative having three substituted acetylenyl groups--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2, 4, and 45-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation “a first monomer having a substituted acetylenyl group and polymerizable in the three-dimensional direction” and “a second monomer having a substituted cyclopentanonyl group and polymerizable in the two-dimensional direction” cause indefiniteness because it can be interpreted to contain only one substituted acetylenyl or cyclopentanonyl group and polymerize in three-dimensional or two-dimensional direction with other functional groups. In view of the Specification, it is not the case.

Claim Analysis

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5. Summary of Claim 1:

An interlayer insulating film comprising a polymer in which	
a first monomer	having a substituted acetylenyl group and polymerizable in the three-dimensional direction
a second monomer	having a substituted cyclopentanonyl group and polymerizable in the two-dimensional direction
are three-dimensionally polymerize	

Summary of Claim 45:

A polymer composition comprising three-dimensionally polymerizing of	
a first monomer	having a substituted acetylenyl group and polymerizable in the three-dimensional direction
a second monomer	having a substituted cyclopentanonyl group and polymerizable in the two-dimensional direction

Allowable Subject Matter

6. Claims 1-2, 4, and 45-47 are allowable over the closest references: Aoi (JP(2001-332543), Lee et al. (EP 1 170 273 A1), and Reppe et al. (US 2,232,867).

Aoi discloses an interlayer insulation film comprising a polymer obtained by polymerizing a first bridging molecule having at least three function groups and a second bridging molecule having two functional groups (abstract; Claims 1-12). However, Aoi does not teach or fairly suggest an interlayer insulation film comprising the polymer prepared by polymerizing the claimed monomer containing acetylenyl

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group and the claimed monomer containing cyclopentanonyl groups.


Lee et al. disclose a thin film obtained by vacuum-deposition polymerizing of an organic compound having at least one acetylene group (abstract; [0055]; claim 1). However, Lee et al. do not teach or fairly suggest a film comprising the polymer prepared by polymerizing the claimed monomer containing acetylenyl group and the claimed monomer containing cyclopentanonyl groups.

Reppe et al. disclose an alkinol obtained by reacting an organic compound having substituted acetylene with a ketone (page 1, lines 49-55). However, Reppe et al. do not teach or fairly suggest a polymer prepared by polymerizing the claimed monomer containing acetylenyl group and the claimed monomer containing cyclopentanonyl groups.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.



LING-SUI CHOI
PRIMARY EXAMINER

November 15, 2006